

**REMARKS**

On September 24, 2004, applicants submitted a response to the Office action mailed March 26, 2004.

Applicants do not repeat here their Remarks submitted September 24, 2004 in response to the objections stated in the Office action.

However, applicants do submit below a new Suggestion for Interference. In particular, included with applicants' last response was a Request for Declaration of Interference. Applicants conformed this request to 37 CFR 1.607. Effective September 13, 2004, however, 37 CFR 41.202(a) sets forth the requirements for suggesting an interference. To comply with this new Rule, applicants hereby submit the following Suggestion of Interference to replace the Request for Declaration of Interference contained in their September 24, 2004 paper.

**I. SUGGESTION OF INTERFERENCE**

On September 24, 2004, applicants submitted a response to the Office action mailed March 26, 2004. Included with this response was a Request for Declaration of Interference. Applicants conformed this request to 37 CFR 1.607. Effective September 13, 2004, however, 37 CFR 41.202(a) sets forth the requirements for suggesting an interference. To comply with this new Rule, applicants hereby submit the following Suggestion of Interference to replace the Request for Declaration of Interference contained in their September 24, 2004 paper.

**A. Identification of the patents and application with  
which applicants seek an interference.**

Applicants request that an interference be declared with the following:

1. U.S. Pat. 6,200,451 (S.N. 09/251,641),
2. U.S. Pat. 6,444,109 (S.N. 09/698,370),
3. U.S. Pat. 6,544,397 (S.N. 09/821,205), and
4. Ser. No. 10/341,859.

These patents and patent application are all owned by MacDermid, Incorporated.

Applicants' assignee (Enthone Inc.) and MacDermid, Inc. own the following additional related applications and patents:

Enthone Inc.:

Ser. No. 10/118,417 (noted in an IDS submitted on June 17, 2002 in the present application); published October 24, 2002 (20002/0152925); Issue fee paid May 14, 2004; Supplemental Notice of Allowability mailed August 18, 2004.

U.S. Pat. 6,395,329

MacDermid, Inc.:

Ser. No. 10/456,329; published November 13, 2003 (2003/0209446); Preliminary claim amendments not included in published application.

Applicants do not request inclusion of these applications or patents in the interference.

U.S. Pat. 6,200,451 (S.N. 09/251,641)

Applicants request that an interference be declared with U.S. Pat. 6,200,451 (S.N. 09/251,641). Applicants had originally

requested this in their Preliminary Amendment filed March 12, 2002.

U.S. Pat. 6,444,109 (S.N. 09/698,370)

Applicants request that an interference be declared with U.S. Pat. 6,444,109 (S.N. 09/698,370). U.S. Pat. No. 6,444,109 was issued on September 3, 2002 based on S.N. 09/698,370, which was filed October 26, 2000 as a division of S.N. 09/251,641. S.N. 09/251,641 issued March 13, 2001 as 6,200,451, for which applicant requested a Declaration of Interference on March 12, 2002.

In applicants' request for Declaration of Interference submitted on March 12, 2002, applicants included the following statement:

(1) Identification of Patent

In accordance with 37 C.F.R. §1.607(a)(1), Applicants request that an interference be declared between the application filed herewith and U.S. Patent 6,200,451. Moreover, Applicants ask that the examiner consider the following pending applications for inclusion in the interference: (1) USSN 251641, filed February 17, 1999, which is a divisional of U.S. Patent 6,200,451; and (2) USSN 821205, filed March 29, 2001, which is a continuation in part of USSN 251641.

This request contained an error. USSN 251641 is 6,200,451. USSN 251641 is not a divisional of 6,200,451. The divisional of 6,200,451 is USSN 09/698,370, which issued as Pat. No. 6,444,109 on September 3, 2002. Applicants therefore request inclusion of 6,444,109 in the interference.

U.S. Pat. 6,544,397 (S.N. 09/821,205)

Applicants request declaration of an interference with 6,544,397. A Request for Declaration of Interference with patent application Ser. No. 09/821,205 was filed with the present application on March 12, 2002. This application subsequently issued as U.S. Pat. 6,544,397 on April 3, 2003. Applicants therefore request inclusion of 6,544,397 in the interference.

S.N. 10/341,859

Applicants request that an interference be declared with Ser. No. 10/341,859.<sup>1</sup> Application S.N. 10/341,859 was filed January 14, 2003 and is a division of application S.N. 09/821,205 (now 6,544,397), for which applicants requested a Declaration of Interference on March 12, 2002. Application 10/341,859 was published on June 26, 2003 in its originally filed form not reflecting its Preliminary Amendment. This Preliminary Amendment cancelled claims 1-8 and 17-20, and amended claim 9 as follows:

9. (Amended) A process for improving the solderability of a metal surface, said process comprising:
  - a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter
  - b). treating the immersion silver plated metal surface with a solution comprising from about 0.1 g/l to about 15 g/l of an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of

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<sup>1</sup>A notice of allowance for this application was mailed on December 9, 2004.

any of the foregoing, and mixtures of any of the foregoing.

Applicants therefore request inclusion of 10/341,859 in the interference.

**B. Proposed Counts**

Applicants propose the following counts, where Count I corresponds to claim 1 of 6,200,451 and to claim 18 of present application 10/099,936; Count II corresponds to claim 9 of 6,200,451 and to claim 24 of present application 10/099,936; and Count III corresponds to claim 1 of 6,444,109 and to claim 32 of present application 10/099,936;

- I. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:
  - a). a soluble source of silver ions;
  - b). an acid;
  - c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.

OR

A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:

- a). a soluble source of silver ions;
- b). an acid;

c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.

- II. An immersion silver plating solution comprising (i) a soluble source of silver ions, (ii) an acid and (iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.

OR

An immersion silver plating solution comprising (i) a soluble source of silver ions, (ii) an acid and (iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.

- III. A process for improving the solderability of a metal surface, said process comprising:

a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter

b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.

OR

A process for improving the solderability of a metal surface, said process comprising:

- a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter
- b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.

This is a revised suggestion of interference in which these new Proposed Counts directly correlate to the subject matter claimed in the respective patents and applications.

**C. Claims Corresponding to the Proposed Counts**

For purposes of this interference, applicants believe the claims correspond to the proposed counts as follows:

- 6,200,451 (S.N. 09/251,641)  
Count I: Claims 1-8  
Count II: Claims 9-12
- U.S. Pat. 6,444,109 (S.N. 09/698,370)  
Count III: Claims 1-8
- U.S. Pat. 6,544,397 (S.N. 09/821,205)  
Count I: Claims 1-8  
Count II: Claims 9-11
- S.N. 10/341,859  
Claims 9-16: Count III

- Present Application 10/099,936<sup>2</sup>  
Count I: Claims 18-23, 27-28, 30  
Count II: Claims 24-26, 31, 38-40  
Count III: Claims 29, 32-37

**D. Interfering Subject Matter**

The following charts demonstrate that for each of the proposed counts the parties' claims interfere within the meaning of 37 CFR 41.203(a).

**Count I**

<b>Applicants' present application 10/099,936</b>	<b>U.S. Patent 6,200,451</b>
18. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:	1. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:
a). a soluble source of silver ions;	a). a soluble source of silver ions;
b). an acid;	b). an acid;

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<sup>2</sup>All claims of 10/099,936 except 27-31 were allowed in March 26, 2004 Office action. Applicants responded to this Office action on September 24, 2004.



Applicants' present application 10/099,936	U.S. Patent 6,200,451
c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.	c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.

The only substantive difference between the respective claims is that the Markush group in claim 1 of U.S. Pat. 6,200,451 contains the following elements not included in the Markush group of applicants' claim 18: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, propoxylated versions of the other additives, or mixtures of the additives. Interference in fact exists for count I because Claim 18 of the applicants' application anticipates claim 1 of U.S. Pat. 6,200,451 and vice versa. See e.g. In re Schaumann, 572 F.2d 312, 197 USPQ 5, 9-10 (CCPA 1978); Ex parte A, 17 USPQ2d 1716, 1718 (BPAI 1990).

Count II

Applicants' present application 10/099,936	U.S. Patent 6,200,451
24. An immersion silver plating solution comprising	9. An immersion silver plating solution comprising
(i) a soluble source of silver ions,	(i) a soluble source of silver ions,
(ii) an acid and	(ii) an acid and
(iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.	(iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphoteric salts, resinous amines, resinous amides, fatty acids, ethoxylated versions of any of the foregoing, propoxylated versions of any of the foregoing and mixtures of any of the foregoing.

The only substantive difference between the respective claims is that the Markush group in claim 9 of 6,200,451 contains the following elements not included in the Markush group of applicants' claim 24: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, propoxylated versions of the other additives, or mixtures of the additives. Interference in fact exists for count II because Claim 24 of the applicants' application anticipates claim 9 of U.S. Pat. 6,200,451 and vice versa. See e.g. In re Schaumann, 572 F.2d 312, 197 USPQ 5, 9-10 (CCPA 1978); Ex parte A, 17 USPQ2d 1716, 1718 (BPAI 1990).

Count III

Applicant's present application 10/099,936	U.S. Patent 6,444,109
32. A process for improving the solderability of a metal surface, said process comprising:	1. A process for improving the solderability of a metal surface, said process comprising:
a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter	a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter
b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.	b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphateric salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.

The only substantive difference between these claims is that the Markush group in claim 1 of 6,444,109 contains the following elements not included in the Markush group of applicants' claim 32: amphoteric salts, resinous amines, resinous amides, fatty acids, resinous acids, or mixtures of the additives. Interference in fact exists for count III because Claim 32 of the applicants' application anticipates claim 1 of U.S. Pat.

6,444,109 and vice versa. See e.g. In re Schaumann, 572 F.2d 312, 197 USPQ 5, 9-10 (CCPA 1978); Ex parte A, 17 USPQ2d 1716, 1718 (BPAI 1990).

**E. Applicant has Priority Over the Interfering Patents and Application.**

As shown below in section G, the present application has an effective filing date of December 9, 1994. The patents and application for which a declaration of interference is requested each has an effective filing date of February 17, 1999.

In particular, the present application is a continuation of Ser. No. 08/939,656 (now 6,395,329), filed September 29, 1997, which was a continuation of application Ser. No. 08/567,885 (now abandoned), filed December 8, 1995, which claimed priority to Great Britain application Ser. No. 9425031.3, filed on December 9, 1994.

The filing date of U.S. Pat. No. 6,200,451 was February 17, 1999. Each of U.S. Pat. No. 6,444,109 (S.N. 09/698,370); U.S. Pat. No. 6,544,397 (S.N. 09/821,205); and Ser. No. 10/341,859 claims this priority date of February 17, 1999.

Applicants are, therefore, the senior party by more than four years under 37 CFR 41.201.

**F. The Written Description of Claims 18-40 in the Present Specification**

The following tables demonstrate that claims 18-40 are supported by the present specification. The citations are exemplary and not exhaustive.

Applicants' Amendments submitted March 13, 2002 and August 1, 2002 stated that claims 20, 23, 26, 34, 37, and 40, which include the element of "an oxidant," are supported by applicants'

specification at page 20, line 23 through page 21, line 26 because "complexing agents can act as oxidants." Applicants do not currently rely on these passages for support of "oxidant." Instead, for support of these claims, applicants currently rely on, for example, the numerous references to nitric acid in the plating composition. Specification page 24, line 24; and Examples 2, 7, and 8. [Paragraphs 0086, 0103, 0123, and 0125 of the application as published Publication No. 2002/0150692.] Nitric acid is a known oxidant and a known oxidant for copper.

Applicants' claim	Support in specification
<p>18. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:</p> <p>a). a soluble source of silver ions;</p> <p>b). an acid;</p> <p>c). an additive selected from the group consisting of</p> <p>fatty amines,</p> <p>fatty amides,</p> <p>quaternary salts,</p> <p>and ethoxylated versions of any of the foregoing.</p>	<p>Page 11, lines 1-9: "immersion plating etched [metal] pads ... in a metal plating step to form solderable plated metal surfaces."</p> <p>Page 14, line 12: "silver and bismuth ions are particularly preferred."</p> <p>Page 14, line 18: "water soluble metal salt ... silver nitrate."</p> <p>Page 24, line 17: "compatible acid."</p> <p>Page 22, line 10: "fatty acid amines."</p> <p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>

Applicants' claim	Support in specification
<p>19. A process according to claim 18 wherein the silver plating solution also comprises material selected from the group consisting of</p> <p>imidazoles,</p> <p>benzimidazoles,</p> <p>imidazole derivatives</p> <p>and benzimidazole derivatives.</p>	<p>Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."</p> <p>Page 23, line 8: "benzimidazoles."</p> <p>Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."</p> <p>Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."</p>
<p>20. A process according to claim 18 wherein the silver plating solution also comprises an oxidant.</p>	<p>Page 24, line 24: "nitric acid."</p> <p>Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).</p>
<p>21. A process according to claim 18 wherein the metal surface comprises copper.</p>	<p>Page 27, line 16: "generally copper."</p>

Applicants' claim	Support in specification
<p>22. A process according to claim 21 wherein the silver plating solution also comprises a material selected from the group consisting of</p> <p>imidazoles,</p> <p>benzimidazoles,</p> <p>imidazole derivatives, and</p> <p>benzimidazole derivatives.</p>	<p>Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."</p> <p>Page 23, line 8: "benzimidazoles."</p> <p>Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."</p> <p>Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."</p>
<p>23. A process according to claim 22 wherein the silver plating solution also comprises an oxidant.</p>	<p>Page 24, line 24: "nitric acid."</p> <p>Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).</p>



Applicants' claim	Support in specification
<p>24. An immersion silver plating solution comprising</p> <p>(i) a soluble source of silver ions,</p> <p>(ii) an acid and</p> <p>(iii) an additive selected from the group consisting of</p> <p>fatty amines,</p> <p>fatty amides,</p> <p>quaternary salts,</p> <p>ethoxylated versions of any of the foregoing.</p>	<p>Page 14, line 18: "water soluble metal salt ... silver nitrate."</p> <p>Page 24, line 17: "compatible acid."</p> <p>Page 22, line 10: "fatty acid amines."</p> <p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>

Applicants' claim	Support in specification
<p>25. An immersion plating solution according to claim 24 also comprising a material selected from the group consisting of</p> <p>imidazoles,</p> <p>benzimidazoles,</p> <p>imidazole derivatives,</p> <p>and benzimidazole derivatives.</p>	<p>Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."</p> <p>Page 23, line 8: "benzimidazoles."</p> <p>Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."</p> <p>Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."</p>
<p>26. An immersion plating solution according to claim 24 also comprising an oxidant.</p>	<p>Page 24, line 24: "nitric acid."</p> <p>Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).</p>

Applicants' claim	Support in specification
<p>27. (Previously presented) A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:</p> <p>a). a soluble source of silver ions;</p> <p>b). an acid; and</p> <p>c). an additive that substantially prevents silver migration by providing a barrier to moisture.</p>	<p>Page 11, lines 1-9: "immersion plating etched pads ... in a metal plating step to form solderable plated metal surfaces."</p> <p>Page 14, line 12: "silver and bismuth ions are particularly preferred."</p> <p>Page 14, line 18: "water soluble metal salt ... silver nitrate."</p> <p>Page 24, line 17: "compatible acid."</p> <p>Page 19, lines 2-13: "The use of... a barrier to moisture."</p>
<p>28. (Previously presented) A process for improving the solderability of a metal surface, said process comprising:</p> <p>a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface, and</p> <p>b). treating the metal surface with a solution comprising an additive that substantially prevents silver migration by providing a barrier to moisture.</p>	<p>Page 11, lines 1-9: "immersion plating etched [metal] pads ... in a metal plating step to form solderable plated metal surfaces."</p> <p>Page 14, line 12: "silver and bismuth ions are particularly preferred."</p> <p>Page 19, lines 2-13: "The use of tarnish inhibitor ... it has been found that the present invention substantially prevents silver migration by providing a barrier to moisture."</p>

Applicants' claim	Support in specification
<p>29. (Previously presented) A process according to claim 28, wherein the solution described in step (b) is distinct from the immersion silver plating solution of step (a), and step (b) is performed after step (a).</p>	<p>Page 16, line 24: "Alternatively, the metal surfaces are formed in the plating step and subsequently the formed metal surfaces are contacted with a solution comprising a tarnish inhibitor in a further step."</p>
<p>30. (Previously presented) A process according to claim 28, wherein the additive is a component of the immersion silver plating solution.</p>	<p>Page 16, line 20: "... the tarnish inhibitor may be present in the plating solution itself so that the plating solution comprises the solution comprising tarnish inhibitor. Thus, in a preferred method of the invention, the plated metal surfaces are contacted with a solution comprising a tarnish inhibitor during the plating step (i.e., contact may be during formation of the plated metal surfaces)."</p>
<p>31. (Previously presented) An immersion silver plating solution comprising</p> <p>(i) a soluble source of silver ions,</p> <p>(ii) an acid</p> <p>and (iii) an additive that substantially prevents silver migration by providing a barrier to moisture.</p>	<p>Page 14, line 18: "water soluble metal salt ... silver nitrate."</p> <p>Page 24, line 17: "compatible acid."</p> <p>Page 19, lines 2-13: "The use of... a barrier to moisture."</p>

Applicants' claim	Support in specification
<p>32. A process for improving the solderability of a metal surface, said process comprising:</p> <p>a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter</p> <p>b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of</p> <p>fatty amines,</p> <p>fatty amides,</p> <p>quaternary salts,</p> <p>ethoxylated versions of any of the foregoing.</p>	<p>Page 16, line 24: "Alternatively, the metal surfaces are formed in the plating step and subsequently the formed metal surfaces are contacted with a solution comprising a tarnish inhibitor in a further step."</p> <p>Page 22, line 10: "fatty acid amines."</p> <p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>

Applicants' claim	Support in specification
<p>33. A process according to claim 32 wherein the silver plating solution comprises a material selected from the group consisting of</p> <p>imidazoles,</p> <p>benzimidazoles,</p> <p>imidazole derivatives</p> <p>and benzimidazole derivatives.</p>	<p>Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."</p> <p>Page 23, line 8: "benzimidazoles."</p> <p>Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."</p> <p>Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."</p>
<p>34. A process according to claim 32 wherein the silver plating solution also comprises an oxidant.</p>	<p>Page 24, line 24: "nitric acid."</p> <p>Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).</p>
<p>35. A process according to claim 32 wherein the metal surface comprises copper.</p>	<p>Page 27, line 16: "generally copper."</p>

Applicants' claim	Support in specification
<p>36. A process according to claim 35 wherein the silver plating solution comprises a material selected from the group consisting of</p> <p>imidazoles,</p> <p>benzimidazoles,</p> <p>imidazole derivatives,</p> <p>and benzimidazole derivatives.</p>	<p>Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."</p> <p>Page 23, line 8: "benzimidazoles."</p> <p>Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."</p> <p>Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."</p>
<p>37. A process according to claim 36 wherein the silver plating solution also comprises an oxidant.</p>	<p>Page 24, line 24: "nitric acid."</p> <p>Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).</p>

Applicants' claim	Support in specification
<p>38. (Previously presented) An immersion silver plating solution comprising an additive selected from the group consisting of</p> <p>fatty amines,</p> <p>fatty amides,</p> <p>quaternary salts,</p> <p>and ethoxylated versions of any of the foregoing.</p>	<p>Page 22, line 10: "fatty acid amines."</p> <p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>
<p>39. (Previously presented) An immersion plating solution according to claim 38 also comprising a material selected from the group consisting of</p> <p>imidazoles,</p> <p>benzimidazoles,</p> <p>imidazole derivatives, and</p> <p>benzimidazole derivatives</p>	<p>Page 23, line 4: "alkyl benzyl imidazoles, e.g. undecyl imidazoles."</p> <p>Page 23, line 8: "benzimidazoles."</p> <p>Page 23, lines 4-7: "undecyl imidazole ... in which the alkyl or benzyl groups are optionally substituted."</p> <p>Page 23, line 11: "2-(p-chlorobenzyl) benzimidazole."</p>



Applicants' claim	Support in specification
40. (Previously presented) An immersion plating solution according to claim 38 also comprising an oxidant.	Page 24, line 24: "nitric acid." Page 34, line 18: "nitric acid" (nitric acid is a known oxidant).

#### G. Applicants' Constructive Reductions to Practice

Application serial number GB 9425031.3 was filed on December 9, 1994 in Great Britain. Application Ser. No. 08/567,885 (now abandoned) was filed in the United States on December 8, 1995, claiming priority under 35 U.S.C. 119 to GB 9425031.3.

Application Ser. No. 08/939,656 (now 6,395,329) was filed as a continuation of 08/567,885 in the United States on September 29, 1997. The specifications for each of these three applications are the same.

The following chart shows where these applications provide a constructive reduction to practice within the scope of each of the three proposed counts.

Count I  18. A process for improving the solderability of a metal surface, said process comprising treating the metal surface with an immersion silver plating solution, said solution comprising:	Page 11, lines 1-9: "immersion plating the etched [metal] pads ... in a metal plating step to form solderable plated metal surfaces." Page 14, line 12-13: "silver and bismuth ions are particularly preferred."
a). a soluble source of silver ions;	Page 14, line 18: "water soluble metal salt ... silver nitrate."
b). an acid;	Page 24, line 17: "compatible acid."

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<p>c). an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, and ethoxylated versions of any of the foregoing.</p>	<p>Page 22, line 10: "fatty acid amines."</p> <p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14-15: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>
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<p>Count II</p> <p>24. An immersion silver plating solution comprising</p>	<p>Page 14, line 6-13: "the [immersion] plating composition comprises metal ions...silver and bismuth ions are particularly preferred."</p>
<p>(i) a soluble source of silver ions,</p>	<p>Page 14, line 18: "water soluble metal salt ... silver nitrate."</p>
<p>(ii) an acid and</p>	<p>Page 24, line 17: "compatible acid."</p>
<p>(iii) an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.</p>	<p>Page 22, line 10: "fatty acid amines."</p> <p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14-15: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>

<p>Count III</p> <p>32. A process for improving the solderability of a metal surface, said process comprising:</p>	<p>Page 11, lines 1-9: "immersion plating the etched [metal] pads ... in a metal plating step to form solderable plated metal surfaces."</p> <p>Page 14, line 12-13: "silver and bismuth ions are particularly preferred."</p>
<p>a). contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter</p>	<p>Page 16, line 24: "Alternatively, the metal surfaces are formed in the plating step and subsequently the formed metal surfaces are contacted with a solution comprising a tarnish inhibitor in a further step."</p> <p>Page 22, lines 8-9: "Suitable tarnish inhibitors ...include"</p> <p>Page 22, line 10: "fatty acid amines."</p>
<p>b). treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, ethoxylated versions of any of the foregoing.</p>	<p>Page 22, line 13: "amides" listed as type of fatty acid amine.</p> <p>Page 22, line 14: "quaternary ammonium salts."</p> <p>Page 22, line 14-15: "ethoxylated quaternary ammonium salts, ethoxylated amides."</p>

**H. The Requirements of 35 USC 135(b) are Met.**

All claims of the present application were present within one year of the issuance of the relevant patents and within one year of the publication of the relevant applications.

## II. CONCLUSION

The Office action mailed March 26, 2004 indicated that pending claims 18-26 and 32-40 are allowable. As shown in applicants' September 24, 2004 response to this Office action, claims 27-31 are also allowable. Applicants respectfully request issuance of a Notice of Allowability for claims 18-40.

This Suggestion of Interference was submitted to comply with 37 CFR 41.202(a), which became effective September 13, 2004. Currently allowed claims interfere with third party claims as demonstrated above. Applicants request that an interference be declared between the present application and the following:

1. U.S. Pat. 6,200,451 (S.N. 09/251,641),
2. U.S. Pat. 6,444,109 (S.N. 09/698/370),
3. U.S. Pat. 6,544,397 (S.N. 09/821,205), and
4. Ser. No. 10/341,859.

Please contact the undersigned if there are any questions concerning the foregoing.

Respectfully submitted,



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